No. 643,919. Patented Feb. 20, 1900.

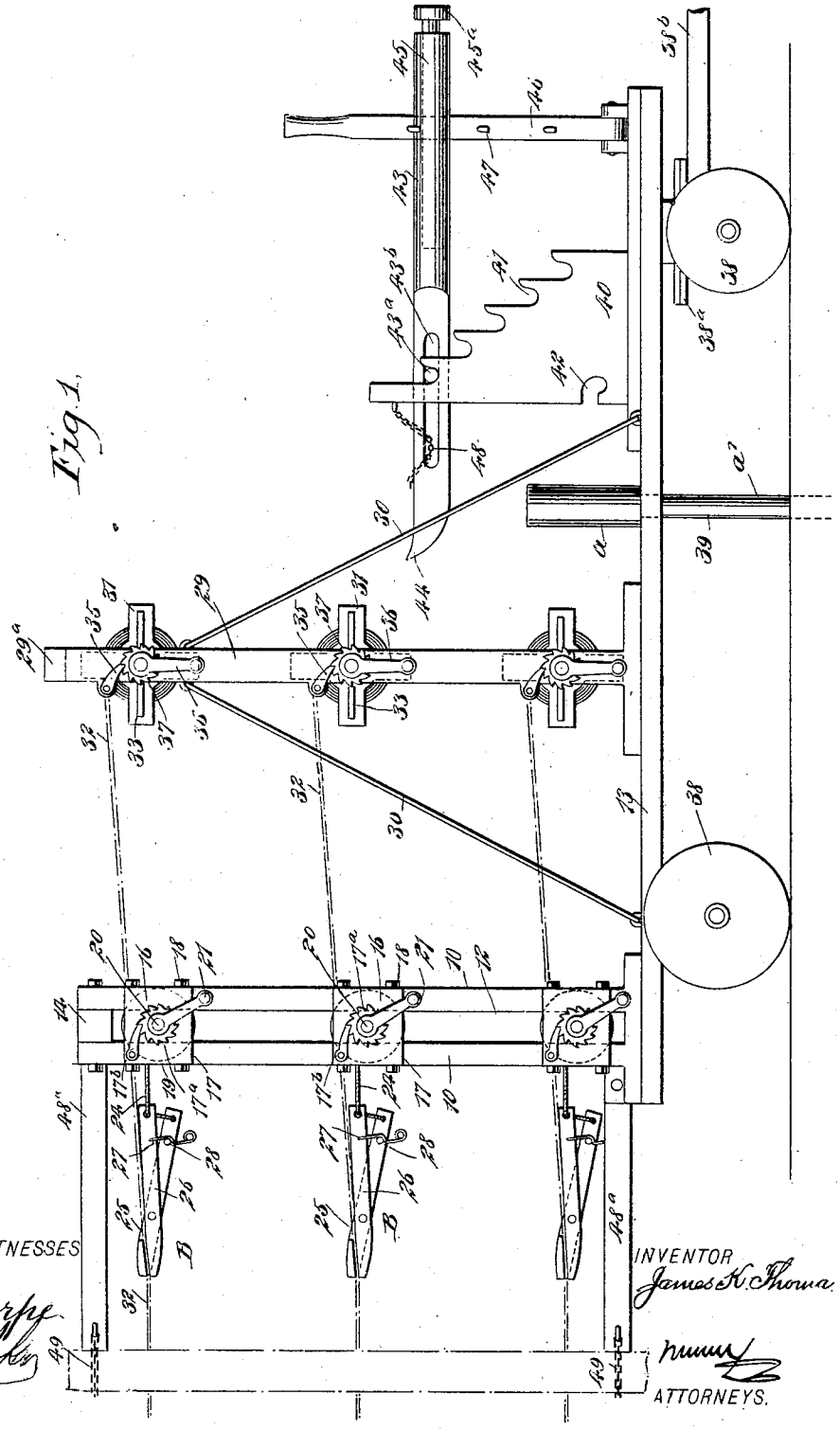
J. K. THOMA.

WIRE FENCE MACHINE.

(Application filed Apr. 5, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.



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Fig. 2.

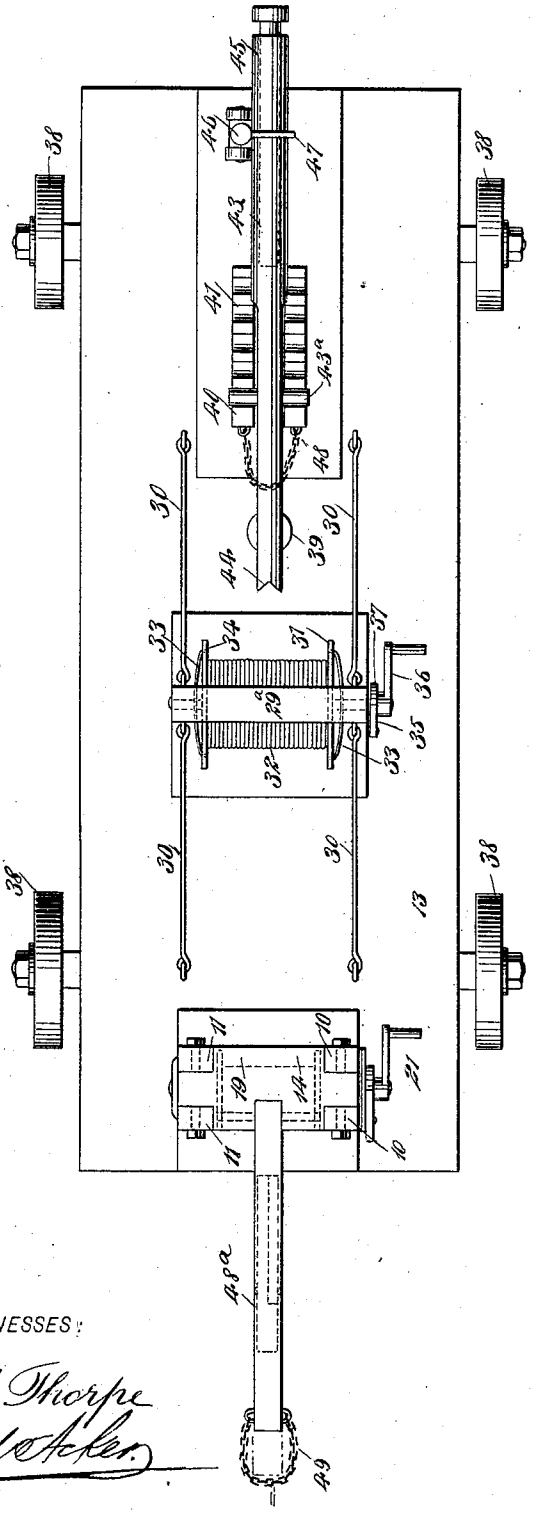
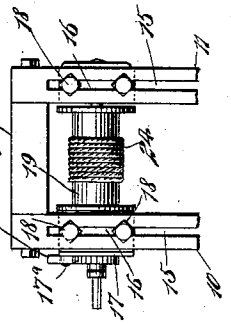


Fig. 4.



Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES K. THOMA, OF WINFIELD, KANSAS.

WIRE-FENCE MACHINE.

SPECIFICATION forming part of Letters Patent No. 643,919, dated February 20, 1900.

Application filed April 5, 1899. Serial No. 711,818. (No model.)

To all whom it may concern:

Be it known that I, JAMES K. THOMA, of Winfield, in the county of Cowley and State of Kansas, have invented a new and Improved Wire-Fence Machine, of which the following is a full, clear, and exact description.

The object of the invention is to provide a machine adapted to carry fence-wire and exert tension upon the wire when the fence is being constructed.

A further object of the invention is to provide a means for the independent manipulation of any one of the wires required in the construction of the fence, and in addition to provide a bearing engagement of the machine with a convenient fence-post, and a means whereby the machine may be held stationary when desired and quickly released from its stationary position.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improved machine. Fig. 2 is a plan view of the machine. Fig. 3 is a front elevation of the rear standards of the machine and one of the tension-drums carried by said standards; and Fig. 4 is a detail view of a tension-spider adapted for use in connection with a reel upon which the wire is wound.

Two pairs of standards 10 and 11, having a space 12 between them, are located upon one end of the base portion 13 of the machine at each side of said base, the pairs of standards being in transverse alinement. The pairs of standards are connected at the top by a cross-bar 14, and each standard of each pair is provided with a longitudinal slot 15. Blocks 16 are adapted to slide between the standards of each pair, and said blocks 16 carry the trunnions of drums 19. The blocks are held adjustable in the standards by means of screws or bolts 18 or their equivalents. The blocks 16, that move between the standards 10, are preferably provided with plates 17 at their outer ends, said plates 17 being capable of moving freely outside of said standards. Each trunnion of each of the drums 19 is provided with a ratchet-wheel 17^a, and these ratchet-wheels are adapted to be engaged by pawls 17^b, which pawls are secured to said plates 17, as shown in Fig. 3. Each trunnion 20 is provided with a crank-handle 21, said crank-handles being adapted to turn said drums, as shown in Fig. 1. Cords or cables 24 are secured to and wound around the drums 19. These cords or cables are adapted to carry clamps B, each of which clamps consists of two members 25 and 26, pivoted together, each member being provided with a jaw, the two jaws being adapted to approach each other and engage with any material passed between them. When the jaws are closed together, they may be locked in such position by means of a spring-latch 27, attached, for example, to the upper jaw and engaging with a keeper 28 upon the lower jaw, said keeper being preferably in the form of a pin, as illustrated in Fig. 1. The cord or cable 24, leading from a drum 19, is passed through an opening in the handle portion of one jaw and is secured to the handle portion of the opposing jaw of a clamp, as is also shown in Fig. 1. Thus when a drum is turned by means of the handle 21, connected with it, in a direction to wind the cord or cable 24 on said drum, the jaws of the clamp connected with said drum will be drawn together and will be held in their closed position by means of the latch 27, as is also illustrated in Fig. 1. These clamps are adapted to engage with the wires 32, that are to form a portion of the fence to be constructed. I desire it to be understood that any desired number of drums 19 may be carried by the standards 10 and 11. Ordinarily, however, three drums only are employed.

Between the forward end of the base 13 and the standards 10 and 11 two transversely-opposing standards 29 are erected, connected by a top bar 29^a, and these standards are braced, preferably, by means of rods 30, that extend from opposite sides of the upper portion of the standards to the said base, as shown in Fig. 1. The standards 29 receive the trunnions of reels 31, and said reels correspond in number to the number of the drums 19 employed and are practically in lateral alinement with said drums. The reels

31 carry the fence-wire 32, heretofore referred to, and each reel is tension-controlled to the extent that a spring-spider 33 is located upon each trunnion of the reel, the arms of said spiders being more or less curved. The arms of the spiders are so bent that they will enter openings 34 in the heads of the reels, as shown particularly in Fig. 2. Pawls 35 are pivoted on the standards 29, and these pawls are adapted to engage with ratchet-wheels 37, that are secured to one of the trunnions of each reel, and the trunnions of the reels to which the ratchet-wheels are secured are likewise attached to crank-arms 36, through the medium of which crank-arms the reels are operated. The crank-arms of the reels are on the same side of the machine as the crank-arms 21 of the drums, as illustrated in Fig. 1.

When the wire is to be slackened or to be taken up, the pawls 35 are disengaged from the ratchet-wheels 37 and the reels are turned by means of their attached handles 36 either to slacken or to take up wire, as occasion may demand. After the wire extending from the reel has been placed under proper tension, the pawl 35 belonging to said reel is made to engage with the teeth of the ratchet-wheel attached to the trunnion of the reel.

The base 13 is preferably supported by wheels 38, mounted upon suitable axles, the axle of the forward wheel 38 being in connection with a fifth-wheel 38^a, and a pole or a tongue 38^b is preferably attached to the forward axle, as shown in Fig. 1.

In order that the machine may be held stationary while in operation, I employ a pin 39, the upper portion a of said pin being of greater diameter than the lower portion a'. The larger portion a of the pin is located above the base 13, while the smaller portion a' is below the base and is usually pointed, so that it may readily enter the ground. When the pin has been placed firmly in the ground, the shoulder formed by the difference in diameter between the two parts of said pin will bear against the upper portion of the base 13, as shown in Fig. 1.

Between the anchorage-pin 39 and the forward end of the base or bed 13 of the machine a jack-block 40 is located. This jack-block is provided with a slot that extends from a point near its base to a point near the top, and the upper edge of said jack-block is inclined downwardly and forwardly and is provided with a series of recesses or pockets 41. The jack-block is further provided in its rear edge near the bottom with a recess 42, the bottom of which recess is curved downwardly, so as to receive and retain a pivot-pin. In connection with the jack-block 40 a lever 43 is employed. This lever is provided with a flattened rear surface, in which a longitudinal slot 43^b is produced, and a pivot-pin 43^a extends through said slot 43^b. The flattened portion of the lever 43 is adapted to be passed through the slot in the jack-block, and the pin 43^a, carried by the lever, is adapted to enter any of the pockets or recesses 41 in the jack-block or the rear recess 42. The rear end of the lever 43 is upturned and is more or less sharpened, as shown at 44 in Figs. 1 and 2, and the sharpened end of the lever is bifurcated to a greater or less degree.

The handle or forward portion of the lever 43 is cylindrical, being provided with a chamber 45, adapted to receive a stick or a telescopic section 45^a, and the handle may be made in any number of such sections, so as to increase the leverage when desired. The lever 43 may be retained in any position in which it may be placed by engagement with hooks 47, attached to a bar 46, pivoted upon the base 13 of the machine. The lever 43 is adapted to pry or raise the pin 39 from the ground or from its retaining position. To that end, the pin 39 being in position to secure the machine in a stationary position and it being desirable that the machine shall be moved, the pivot-pin 43^a of the lever is placed in the recess 42 of the jack-block and the pointed end 44 of said lever is introduced beneath the shoulder of said pin 39. The pin is then pried up from the ground as far as the scope of the operation of the lever will permit. The lever is then removed from the recess 42 and placed, for example, in the lowermost pocket or recess 41 or the pocket next to the lowermost one. The pin 39 may then be carried farther upward, and the lever is shifted from one pocket 41 to another until the lever occupies such position that it will carry the pin 39 clear of the ground. After the pin 39 has been disengaged from the ground and carried to a suitable point above the surface of the ground a chain 48, attached to the upper portion of the jack-block, will serve to hold said pin in its upper position.

When the machine is in operation, arms 48^a, pivoted to the base 13 and the upper bar 14 of the rear standards, are brought in engagement with the most convenient fence-post and held in such engagement by means of chains 49 or their equivalents, as illustrated in Fig. 1. I desire it to be understood that the base for the rear standards 10 and 11 may be pivoted upon the base 13 of the machine and that the uprights or standards 29, carrying the drums, may likewise be pivoted upon the main base of the machine or may have a hinged connection therewith, as likewise may the jack-block 40. The jack may be used for other purposes than fence-building—as, for example, it may be utilized for pulling up fence-posts, roots, &c.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a wire-fence machine, a base, uprights projected from the base, a drum mounted to turn in said uprights, a locking device for the drum, a clamp provided with opposing jaws, and a cable carried from the drum, passed

through the handle of one of said jaws and secured to the handle of the opposing jaw, for the purpose set forth.

2. In a wire-fence machine, a base, standards projected from the base, a drum mounted to revolve between said standards, means for vertically adjusting said drum, a locking device for the drum, a clamp provided with opposing jaws, a cable connected with the drum, being loosely passed through the handle of one jaw and securely fastened to the opposing jaw of the clamp, and a locking device for the handles of the jaws, for the purpose set forth.

3. In a wire-fence machine, the combination, with a base, standards carried by the base, drums vertically adjustable in said standards, a locking device for said drums, and a wire-clamping device controlled by said drums, of a second set of standards carried by the base, a reel mounted to turn in the second set of standards, tension devices for the heads of the reel, and locking devices for the reel, said reel being adapted to carry wire, which wire is adapted to be engaged by the clamping device connected with said drum, as described.

4. In a wire-fence machine, the combination, with a base, standards projected from the base, blocks adjustably carried by said standards, drums mounted in said blocks, a locking device for said drums, and a wire-clamping device consisting of pivotally-connected handles, each handle terminating in a jaw, means for locking the jaws in a closed position, and a cable attached to the drum, which cable is loosely passed through one of said handles, being attached to the opposing handle of the jaws, of a support adjacent to said standards, a reel carried by said support, and a locking device for the reel, said reel being adapted to carry wire, which wire is adapted to be grasped between the jaws of said clamp, for the purpose set forth.

5. In a wire-fence machine, the combination, with a base, standards projected from the base, blocks adjustably carried by said standards, drums mounted in said blocks, a locking device for said drums, and a wire-clamping device consisting of pivotally-connected handles, each handle terminating in a jaw, means for locking the jaws in a closed position, and a cable attached to the drum, which cable is loosely passed through one of said handles, being attached to the opposing handle, of a support adjacent to said standards, a reel carried by said support, a locking device for the reel, said reel being adapted to carry wire, which wire is adapted to be grasped between the jaws of said clamping device, arms projected from the base and from said standards, and means, substantially as described, for locking said arms to a fence-post, as specified.

6. In a wire-fence machine, the combination of a revoluble drum, means for applying power to the same, a cable attached to the drum, and a clamp consisting in two pivoted jaws, the cable having one end attached to one jaw and the cable being passed loosely through the opening in the other jaw.

7. In a wire-fence machine, the combination with a frame, of a winding apparatus, a clamp having connection therewith, the clamp serving to engage the wire to haul the same, and means mounted on the frame for carrying the wire-reel, permitting the wire to be paid out as the machine advances along the fence-line, and the clamp and winding devices serving to haul the wire to tension the same.

JAMES K. THOMA.

Witnesses:
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J. W. ESSLER.